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ABSTRACT

The uses of various research designs in educational research are discussed. Research methodologies such as social anthropology, path analysis, classroom observation, historiography, interaction analysis, and statistical analysis are described. The educational settings in which each of them would be an effective research tool are illustrated. (JD)

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Alternate Research Models: A Framework for Conducting Research on Teacher Education

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Alternate Research Models: A Framework
for Conducting Research on Teacher Education

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The purpose of this paper is to discuss the uses of various research designs in educational research. The suggestion is made that educational researchers have unnecessarily limited the range of research models used and have largely ignored some models that may be more suited to the study of education than some of the traditional approaches.

In recent years serious doubts about research methodology have been raised in the research community (Durkin and Biddle, 1974; Cronbach, 1975, McKeachie, 1974; Snow, 1974;). This view is captured by Berliner and Tekunoff (1976, p. 24), in their report of an uneasiness concerning the present style of educational research. These concerns have led to a reevaluation of the research question and methodology.

Lutz and Ramsey (1974), remind us of an age old scientific problem. They point out that scientific thought and advancement can be hindered by the framework of its own concepts. A thoughtful researcher needs to guard against this phenomena and constantly evaluate the research methodology in terms of appropriateness.

McKeachie (1974) identifies a primary concern by questioning the appropriateness of research methods by citing their failure to take into account the differences between controlling a few variables in a laboratory or artificial setting and the interaction of these variables in natural educational settings. Snow (1974 p. 268) echoes this same perspective when he states, "If complex behavior is assumed to be both probabilistic and multidimensional, 'stripping' the environment down to a minimum in order to control, to determine the role of a very few variable, may be a potentially self-defeating process."

Berliner (1976) raises questions regarding statistical techniques. He states that most researchers are now using statistical procedures in which one can put little faith. He does not believe that commonly used procedures adequately meet the requirements of educational situations. He states that new techniques need to be used which can measure the change of achievement of students in natural classroom settings (p. 12).

Gage (1977) has forwarded a proposal that might be of assistance in searching for an appropriate research framework. He suggests that investigations ought to be seen as progressing from descriptive to correlational to experimental levels. His proposal would seem to be consistent with an earlier proposal by Rogers (in Dance, 1967). He stated, "I came to a conclusion which others have reached before that in a new field what is needed first is to steep oneself in the events, to approach the phenomena with as few preconceptions as possible, to take a naturalistic observational descriptive approach to these events . . . (pp. 291-292).

One approach that has been tried by several researchers in recent years is the ethnographic approach used by social anthropology. This method has been recommended by Lutz and Ramsey 1974; Magoon, 1977; and was employed by Berliner and Tikunoff in the California Beginning Teacher Evaluation Study (1976). Lutz and Ramsey point out that this approach is especially helpful in generating hypotheses.

The ethnographic approach employs the participant observer model. Extensive records are kept over a significant period of time concerning the events and environmental conditions of a regular classroom. Special attention is given to the roles, sanctions, norms, values and on how the participants construct and interpret reality. In short the culture of the classroom and how it operates is observed. This approach does not begin with a hypotheses but rather

with some tentative assumptions about the phenomena being studied. The primary concern is more with description and interpretation than with prediction and measurement.

Lutz and Ramsey are quick to point out that this type of research is not merely an accounting of how someone did something but rather a careful study that follows certain rules and procedures. These studies should not be considered as less scientific than other modes of inquiry but should be thought of as a parallel way of acquiring knowledge. The ethnographic method clarifies how variables interact and relate in a naturalistic setting and how even one variable may impact the whole system. It involves a considerable amount of work and goes beyond the mere rejection of a null hypothesis.

There are several possible areas of teacher education where this method of inquiry would seem quite appropriate. One such area might be to study the function of the student teaching experience in inducting individuals into the culture of teaching. It has long been assumed that changes in the undergraduate preparation of teachers would eventually result in the improvement of instruction in the schools. Accordingly much attention has been focused on the quality of teacher education programs. In spite of efforts to improve the quality of undergraduate offerings many of us in teacher education are frustrated by the apparent lack of impact our programs have on the behavior of our graduates. It could be that the student teaching experience and other related field experience actually acts as an inhibit change by teaching the student teacher the accepted set of cultural pattern and behaviors. If this is found to be valid then more attention and resources should be focused on the student teaching experience and the enculturation process.

Similarily, the problem of in-service education may have been approached much too simplistically. It is obvious that in-service education programs often do not work very well. Recently professional literature has been filled with

alternative approaches and potential remedies for the in-service problem. The most recent of these is the teacher center notion. Again, as one looks at the school as a culture it could well be that bringing about change in a school is no less complex than bringing about change in a culture. An anthropological approach might focus on the role of leaders, the function of folklore and tradition, the visible and invisible power hierarchies the interpretation of reality by participants and other variables that seem to influence the acceptance or rejection of a particular innovation. Possibly those key variables could be identifed that, if change, would result in change for the rest of the system.

Another methodology that offers some promise for educational study is the historical method. Historiography has long been employed in studies in educational foundations. However, there might be some other areas where this method could be profitably applied.

The historian, like the educators, is confronted with the problem of not being able to control and manipulate variables. Again the purpose is primarily one of description and interpretation. The historian must start with a given event or person of interest and then goes about the painstaking task of trying to find all relevant data and then reconstructing and interpretation the event. It is recognized that much of the data will be incomplete and even inaccurate and that the same even might be interpreted in several different ways. It is recognized in the search for truth, precise truth is not possible. Although objectivity is valued in history it is recognized that the bias of the researcher enters into the interpretation. Both of these perspectives would seem to be especially helpful in educational research. The unstated biases of researchers might be more dangerous than those clearly stated at the outset.

A potential application of this method might be in identifying a program or outcome that has been successful in bringing about change or achievement and then begin the process of gathering documents, interviews of participants and then attempting to reconstruct and interpret the event. Several studies of this nature relating to successful in-service programs would seem to be more valuable than our current state of knowledge.

Finally economics offers some perspectives on research that could be of value. Once again the method of the experimental laboratory cannot be readily adpated to the study of economic behavior. It is not possible to measure the exact factors contributing to economic growth. However, this has not prevented economists from formulating models or conducting research. The models have influenced policy and some of us even place some confidence in them.

The economists observes, gathers data and looks for regularity. A hypothesis is then formulated. This hypothesis is then applied to the explanation and prediction of economic behavior to see if it has any predictive value and general application. The analysts tries to specify all conditions under which condition B logically and inevitably follows A.

This notion of observing for regularity and using the power of prediction as a criterion is one that seems to have great use for conducting research in educational settings. Causal modeling and the related statistical techniques of path analysis are related to this method. Causal modeling is especially well suited to problems where political and practical issues prevent the manipulation of variables in the classical sense. Using path analysis it is possible to determine from the data how much change in B was caused by a change in A as well as whether or not an overall pattern of relationships fit with the data at hand. This would seem to be especially appropriate in studying whether or not a network of variables such as teacher behaviors relate to student achievement and how much each variable might contribute to the achievement.

In summary the purpose of this paper was to stimulate discussion regarding the use of alternative models. It has been said that advancement in science requires that concepts be challenged and reformulated. It is possible that in education we have allowed our concepts to place unnecessary limits on our research endeavors. Perhaps the time is here for us to consider alternative research models for the phenomena we are studying and for practicing educational researchers to concede that there are multiple scientific methods for studying the same phenomena.

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